

TELE-PRE-ANESTHESIA EVALUATION

Sonia Richmond

Abstract

Background and Purpose: First case delays and cancellations of elective spine procedures in the operating room negatively affect patient care. The purpose of this project was to evaluate the impact of tele-pre-anesthesia evaluations on the rate of delays and cancellations of first cases in the operating room of patients undergoing spine surgery and examine the usability of the tele-pre-anesthesia evaluations by anesthesia providers.

Methods: A pretest, posttest design was used to measure the rate of delays and cancellations of first scheduled spine surgery cases. First case delays, measured in minutes, and cancellation occurrence were tracked via hospital's Epic software. Anesthesia providers performed *tele-pre-anesthesia evaluations* 5 days prior to procedure on patients scheduled for spinal fusion and decompression, laminectomy, or hardware removal. Anesthesiologist and nurse anesthetists' usability perception of the *tele-pre-anesthesia evaluation* method were measured post implementation via anonymous survey. The project was conducted over a 22-week period at an urban community hospital.

Results: 74 out of 285 cases received a tele-pre-anesthesia evaluation. The number of minutes the first spinal surgical case was delayed was 7.3 ± 9.6 minutes post-intervention and 8.9 ± 11.7 minutes pre-intervention. 15 cases were cancelled, 4 (5.4%) in the group that received *tele-pre-anesthesia evaluation* and 11 (5.2%) in the group that did not receive the *tele-pre-anesthesia evaluation*. 9 (90%) of anesthesia providers reported SUS scores of ≥ 68 points.

Conclusions: Differences in first spine surgical case delay minutes and the number of cancellations were not statistically significant between the two groups, ($p=0.29$) and ($p=0.95$), respectively, using the *tele-pre-anesthesia evaluation*. However, anesthesia providers perceived the *tele-pre-anesthesia evaluation* method as highly usable.

Implications: This project highlighted the need for further investigation of other contributors to delays and cancellations of first spine surgery cases at the clinical site. It also provided an introduction to the integration of telemedicine in pre-anesthesia workflows.

Keywords: telemedicine, first-case delay, first-case cancellation, pre-anesthesia evaluation, spine surgery